

Amendments to the Drawings:

Submitted herewith are 5 sheets of replacement drawing sheets with Figs. 1-10 thereon believed to be in compliance with 37 CFR 1.121(d). Please replace the drawings of Figs. 1-10 submitted herewith for those of Figs. 1-5 originally submitted and for Figs 6-10 submitted 03 March 2006. Should such replacement drawings be deficient in any particular manner, the Examiner is requested to specifically identify such deficiency so that it may be corrected.

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Basis for the amendment to claim 1 may be found generally throughout the specification, and specifically, e.g., at page 25, line 3.

In paragraph 1 the drawings are objected to as not being acceptable, but with no specific deficiency identified. Submitted herewith are replacement drawing sheets believed to be in compliance with 37 CFR 1.121(d). Please replace the drawings of Figs. 1-10 submitted herewith for those of Figs. 1-5 originally submitted and for Figs 6-10 submitted 03 March 2006. Should such replacement drawings be deficient in any particular manner, the Examiner is requested to specifically identify such deficiency so that it may be corrected.

In paragraph 4 claim 9 is rejected under 35 USC 112, second paragraph, the Examiner stating that it is unclear what the Applicants refer to as an "emissive element emits light in greater than 1 wavelength". The Examiner states such term will be construed as "pulsating more than one instant". Such term, however, is not intended to refer to multiple pulsations, but rather is intended to refer to the emission spectrum of the emitted light including light emissions at multiple distinct wavelengths, in accordance with the ordinary meaning of "wavelength" of light. As set forth at page 10 of the specification, where the light emissive element emits in more than 1 wavelength and the detector detects in more than one wavelength, more information can be detected by utilizing more than one of the wavelengths of such emitted light, and can advantageously provide timing redundancy for critical applications. Reconsideration of this rejection is accordingly respectfully requested.

In paragraph 6 claims 1, 6, 7, 9, 13-19, 21, 22, 24, 28 and 29 stand rejected under 35 USC 102 as being anticipated by Oshima et al (139). With respect to claim 1, the Examiner states that Oshima et al discloses in Figs. 44-46 a timing device comprising an indicator device (80) and a detector (104) wherein said indicator device comprises the combination of a light-emissive element (84, 90, 91) and a patterning layer (88) wherein said indicator device moves relative to said detector device using transport (92) and rollers (99). This rejection is respectfully traversed.

The claims of the instant invention are specifically directed towards a timing device comprising a detector and an indicator device. As explained in the Background of the Invention, timing devices allow machine devices (such as ink jet print heads) to be accurately positioned in space. In a typical prior art timing device, e.g., light projected by a transmitter passes through a control element (or indicator), and is intercepted by the receiver (or detector). The receiver, responsive to the light, converts the light into an electrical signal capable of controlling machinery and other servo-mechanical devices. This application is used, for example, to control the feeding action of machine tools. More specifically, the electrical signals may serve to establish a control surface for the measurement of rotational speed, acceleration and more accurate positioning of servo-mechanical elements, as for example a printing head, a robot arm or a tool carrier.

The timing device of the instant invention utilizes an indicator device that is the combination of a light emitting element and a patterning layer. Claim 1 has been amended to more clearly state that the patterning layer is patterned with a timing device encoder pattern, as is required for an actual timing device. Such a timing device is not taught or suggested in Oshima et al. as alleged by the Examiner. While disclosing a pattern 88 as noted by the Examiner, Oshima teaches forming standard bar code marks rather than be directed towards a timing device comprising a patterning layer patterned with a timing device encoder pattern. Such standard barcode markings employed in Oshima et al are not equivalent to a timing device encoder pattern, as they are not specifically patterned so as to provide for the functionality of a timing device (e.g., for the measurement of rotational speed, acceleration and more accurate positioning of servo-mechanical elements) as alleged by the Examiner. Any relative movement provided between the bar code mark 88 and the detector 104 in Oshima et al. is simply for the purpose of reading the information contained in the barcode itself, not for providing a timing device. Accordingly, Oshima et al. does not disclose a timing device as required by the present claimed invention.

As Oshima et al. is directed towards a fluorescent bar code information reading system and fails to disclose a timing device comprising a timing device encoder pattern, the present invention is clearly not anticipated. Reconsideration of this rejection is accordingly respectfully requested.

In paragraph 7 claims 1, 2, 13-15 and 19 stand rejected under 35 USC 102 as being anticipated by Fukuda et al (346). With respect to claim 1, the Examiner states that Fukuda et al discloses in Figs. 1 and 20 a timing device comprising an indicator device (12) and a detector (18) wherein said indicator device comprises the combination of a light-emissive element (58) and a patterning layer (24) wherein said indicator device moves relative to said detector. This rejection is respectfully traversed.

As explained above, the claims of the instant invention are specifically directed towards a timing device comprising a detector and an indicator device, where the indicator device is the combination of a light emitting element and a patterning layer patterned with a timing device encoder pattern. Such a timing device is not taught or suggested in Fukuda et al. as alleged by the Examiner. Element 24 of Fukuda et al relates to operation keys of a portable information terminal device such as a cell phone, not to a timing device encoder pattern of a timing device. Such operation keys employed in Fukuda et al are clearly not equivalent to a timing device encoder pattern, as they are not specifically patterned so as to provide for the functionality of a timing device (e.g., for the measurement of rotational speed, acceleration and more accurate positioning of servo-mechanical elements) as alleged by the Examiner. Any relative movement provided between the operation keys 24 and element 18 in Fukuda et al. is simply for the purpose of opening the cell phone, not for providing a timing device. Accordingly, Fukuda et al. does not disclose a timing device as required by the present claimed invention.

As Fukuda et al. is directed towards a portable information terminal device and fails to disclose a timing device comprising a timing device encoder pattern, the present invention is clearly not anticipated. Reconsideration of this rejection is accordingly respectfully requested.

In paragraph 8 claims 1, 2, 6, 14 and 19 stand rejected under 35 USC 102 as being anticipated by Borza (384). With respect to claim 1, the Examiner states that Borza discloses in Fig. 5 a timing device comprising an indicator device and a detector (32, 51) wherein said indicator device comprises the combination of a light-emissive element (4a, 27) and a patterning layer (28)

wherein said indicator device moves relative to said detector. This rejection is respectfully traversed.

As explained above, the claims of the instant invention are specifically directed towards a timing device comprising a detector and an indicator device, where the indicator device is the combination of a light emitting element and a patterning layer patterned with a timing device encoder pattern. Such a timing device is not taught or suggested in Borza as alleged by the Examiner. Element 28 of Borza relates to small prisms of an optical imaging device such as a fingerprint imager, not to a timing device encoder pattern of a timing device. Such prisms employed in Borza are clearly not equivalent to a timing device encoder pattern, as they are not specifically patterned so as to provide for the functionality of a timing device (e.g., for the measurement of rotational speed, acceleration and more accurate positioning of servo-mechanical elements) as alleged by the Examiner. Any relative movement provided between the prism elements 28 and sensor element 32 in Borza is simply for the purpose of scanning a separate object (such as a fingerprint), not for providing a timing device. Accordingly, Borza does not disclose a timing device as required by the present claimed invention.

As Borza is directed towards an optical imaging device and fails to disclose a timing device comprising a timing device encoder pattern, the present invention is clearly not anticipated. Reconsideration of this rejection is accordingly respectfully requested.

In paragraph 10 of the Office Action claims 2-5, 8, 20, 23 and 25-27 stand rejected under 35 USC 103 as being unpatentable over Oshima et al. (139). This rejection is respectfully traversed. As Oshima is not directed towards a timing device comprising a timing device encoder pattern as explained above, even if any of the proposed modifications of Oshima et al were to be performed, the present invention still would not be obtained. Further, there is in any event no teaching or suggestion to modify the fluorescent mark bar code reading system of Oshima to provide the specific features taught as being useful in a timing device in accordance with the present invention, especially to the extent such additional claim features are not in any way suggested as being pertinent to such fluorescent mark bar code reading system (e.g., bending stiffness), or would otherwise defeat

the purpose of Oshima of providing a fluorescent mark bar code reading system (e.g., substitution of electroluminescent material for the fluorescent material). Accordingly, a prima facie case of obviousness has not been established, and reconsideration and withdrawal of the rejection is accordingly respectfully requested.

In view of the foregoing amendments and remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the Examiner is earnestly solicited. Should the Examiner believe any remaining issues may be resolved via a telephone interview, the Examiner is encouraged to contact Applicants' representative at the number below to discuss such issues.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.